

IN THIS ISSUE “REALIZING DREAMS” — CAN COME TRUE

PRESIDENT’S MESSAGE

PAGE 2

DONORS & MEMBERS CORNER

PAGE 3

PSF IN SKY & TELESCOPE MAGAZINE

PAGE 3

MEMBER SPOTLIGHT: BILL BOIKE

PAGE 5

MEET THE CANDIDATES

PAGE 6

HERITAGE FLIGHT MUSEUM UPDATE

PAGE 7

“REALIZING DREAMS” — CAN COME TRUE

On April 23rd, PSF Executive Secretary and Editor-in-Chief, Andrea Nolan, and her husband and PSF Treasurer, Ryan, attended a “Realizing Dreams” brunch event at Harper College in Palatine, IL as representatives to meet the student recipient of the 2021-2022 Planetary Studies Foundation Endowment scholarship, Alex Jakopin. This year’s event was the first in-person event since the pandemic, so it was special to have donors and students able to meet once again.

Alex is interested in pursuing a degree in Mechanical Engineering. Alex comes from a family of engineers in a variety of fields and growing up, he felt inspired by characters in different books that were architects. Alex lives in Deer Park, IL and plans to transfer to Northern Illinois University after he receives his Associate’s Degree of Science from Harper.

One really neat thing we learned about Alex is that throughout middle and high school, he hated math and felt like he wasn’t very good at it. Which, at times, felt discouraging given the career path he was interested in. However, since starting at Harper he has not only done very well in his math courses, but genuinely enjoys it.

After the event, Alex was interested in the PSF’s mission and quickly became a Student Member. He attended the most recent Members Night at the Karl G. Henize Observatory on Jun. 3 and enjoyed an evening of stargazing and networking with other members.

On behalf of the PSF, we’d like to give a special thanks to the Harper Scholarship team for their hard work and organization to host such a beautiful event. The day was perfect!

Dr. and Mrs. Sipiera,

I am truly grateful for your incredible support of my education through the Planetary Studies Foundation (PSF) award.

With the help of this scholarship this semester, I am enrolled in a Differential Equations (Math 212) course, Spanish Language for Intermediate Speakers (SPA 201), and an Engineering Mechanics: Statistics (EGR 210).

Your support of the PSF Scholarship means I can continue my goals of studying mechanical engineering and physical sciences.

You have my most sincere gratitude,

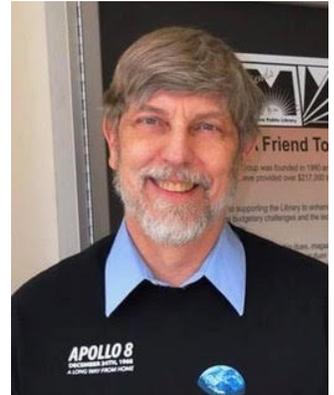
Alexander Jakopin



Ryan and Andrea Nolan with Alex Jakopin

PRESIDENT'S MESSAGE

As the First Half of 2022 quickly comes to an end, I have the pleasure to report to our membership that your Planetary Studies Foundation is making strides to create a NEW NORM for our organization. The fact that PSF no longer owns or rents an actual facility to display our meteorites and historic artifacts comes with both sadness and as a blessing. Certainly, we were all saddened by the closing of our Earth & Space Science Center and the 1876 Banwarth House & Museum in Elizabeth, Illinois. In both instances this was due to conditions way beyond our control and as PSF has done so many times in the past it adapted to find ways to survive. I am very proud to mention that our magnificent Earth & Space Science Center exhibits have been preserved on the PSF Website as a Virtual Museum. I personally refer to this website for ideas and artifact references as we make plans for the future. Also, on the "blessing-side" of things there is a sense of relief that PSF no longer has the financial and property management responsibilities that come with ownership. Let's not forget that PSF still has the Doug Firebaugh Astronomical Observatory in Freeport, IL to look upon with pride and great respect for Jim Dole and his astronomers. The work they do in maintaining the observatory and offering educational and observing programs for the public is to be highly commended. Jim and members of his team recently joined-in at PSF's members event at the Karl G. Henize Astronomical Observatory at William Rainey Harper College in Palatine, IL. This event organized by PSF's Executive Secretary Andrea M. Nolan was a huge success as many of our original members came out with their telescopes and memories of PSF's earliest days. PSF was one of the first organization to support the construction of the Henize Observatory back in 1990 and still supports its current operations. One of PSF's original dreams and goals was to help build a planetarium at Harper College. Although this dream is over 30 years old it may still come to fruition since a planetarium is part of Harper College's Master Plan. We all hope that this dream may come true much sooner rather than later.



It's always my pleasure to report on the success of PSF's meteorite research and its associated educational outreach programs with various museums. Many thanks to Dr. Tony Irving and his colleagues at Brown University in Rhode Island and at Washington University in St. Louis, MO. Together they formed a highly efficient team to take on the challenge of classifying 127 stony meteorites that were offered to PSF in the middle of the COVID-19 pandemic. Normally a 127-meteorite classification project would be challenging but with university and preparation laboratories closing all over the nation its completion seemed very uncertain. Thanks to his years of experience with meteorite classification and his networking skills Tony was able to work through many of the analytical and preparation problems. To date 89 of the 127 meteorites have received official recognition in the Meteoritical Bulletin's database with the remainder in some state of completion. There is also good news on PSF's effort to create an educational meteorite display for the Putnam Museum & Science Center in Davenport, IA. The various meteorites and related specimens that will be displayed have been transferred to the Putnam Museum and are awaiting placement in the specialized humidity-controlled cabinet that is currently under construction. Once completed this display will not only be an excellent educational resource for understanding the scientific importance of meteorites but it will also honor the memory of the late PSF Executive Board Member and donor Christina Hollis. Many of the meteorites that will be on display were donated by Christina from her personal collection. A dedication event for the display will be held later this year and will be open to all PSF members, her family and friends. PSF's meteorite interests at the Yale Peabody Museum in New Haven, CT are also progressing after many COVID-19 and other delays have slowed-down our cooperative efforts. PSF's donation of its historic James M. DuPont Meteorite Collection was successfully transferred to the Yale Peabody Museum in July of 2017. A second component of PSF's donation included over 1,500 distinct meteorites that were acquired after 1991 through purchases and original research. It was the original intent to transfer these meteorites in 2019 but unforeseen circumstances made that impossible. Seems that some good can always come out from bad things and in this case the last few years have seen PSF's meteorite collection grow by several hundred specimens. These additional meteorites will also be included in the eventual transfer to the Yale Peabody Museum early next year. It is also nice to mention that PSF was able to award Evelyn Larson a senior at Yale an internship scholarship in support of her summer research project to learn geochemical analytical techniques. Evelyn is a native of Galena, IL and has been associated with PSF in many ways since her junior year in high school. PSF is very proud of Evelyn's achievements and wish her a very successful future in science. It is also very nice that PSF was able to renew its student travel grant support for a US citizen's attendance at the Annual Meteoritical Society's Meeting in Glasgow, Scotland. With all this going on it seems that PSF's NEW NORM will be quite successful!

Paul P. Sipiiera

DONORS SPOTLIGHT

Second Quarter 2022 Contributions

General Operations

Marilyn Quas
Diane & Paul Szipera
Herbert Windolf
The Benevity Community Impact Fund

Doug Firebaugh Astronomical Observatory

Tom Dunmore

MEMBERS CORNER

NEW MEMBERS

Student

Alexander Jakopin

RENEWING MEMBERS

Contributing

Tom Dunmore

Sponsoring

Kim & Ken Thorsen

Individual Membership

Steve P. Hoyer
Candice Phelps Kohl
Deborah Pausz

Family Membership

Leo & Karen Baren
Joe and Bonnie Garrity
Ernst & Mary Jo Jolas

PSF IN SKY & TELESCOPE MAGAZINE

The PSF received an email from Jim Dole, Co-director of the PSF's Firebaugh Observatory in Freeport, IL in early May 2022. While reading the January 2022 issue of *Sky & Telescope* magazine he came across an article that highlighted the astroimaging revolution of 1997 driven by CCD technology. To his surprise, the article discussed veteran observer, Paul Comba, and his 18-in reflector telescope — the very telescope that delights the public at his Freeport observatory. He couldn't believe it!

75, 50 & 25 YEARS AGO by Roger W. Sinnott

1947

January 1947
Far UV "[At] White Sands Proving Ground on October 10th, . . . the ultraviolet spectrum of the sun at wave lengths shorter than 3400 angstroms was obtained from a V-2 rocket at a height of 88 kilometers. The limit of the spectrograph was 1100 angstroms, [a region] normally absorbed by the ozone in the upper atmosphere. The new spectra clearly show the elimination of this absorption and the appearance of the spectrum in the ultraviolet as the rocket ascended above the ozone layer."
Captured German V-2 rockets continued to open new frontiers.

1972

January 1972
Dwarf Unveiled "Sirius B is among the most important of the several thousand white dwarfs now known, since it forms a visual binary with Sirius A, the brightest star in the [night] sky. . . . But it is 10 magnitudes fainter than Sirius

A, so its spectrum is exceedingly difficult to photograph without serious contamination from the brilliant primary. . . .
 "During the past decade, the angular separation between the two components has been nearly the maximum possible, [letting astronomers] obtain the first 'clean' spectra of Sirius B at the coudé focus of the 200-inch telescope. . . .
 "J. L. Greenstein, J. B. Oke, and H. L. Shipman [report] that Sirius B has an effective temperature of 32,000° Kelvin, radius 5,400 kilometers [, and is] a white dwarf consisting primarily of helium."

January 1997
CCD Charm "Unless you are very new to astronomy, you know about the astroimaging revolution. Amateurs are converting wholesale from conventional emulsion-based photography to digital imaging . . .
 "During the 1980s backyard observers chalked up about 20 extragalactic supernovae. That number has more than doubled in the first six years of this decade, and most of the new finds were captured by CCDs. . . .
 "Closer to home are countless asteroids waiting to be discovered. With rare exceptions, the sky has been swept clean of minor planets brighter than 16th magnitude (and thus within easy reach of conventional amateur astrophotography). But a CCD on even an 8-inch telescope can easily reach 18th magnitude in a few minutes. That opens a remarkably wide door to discovery. The experience of veteran observer Paul Comba in Arizona is a case in point. In the six months after connecting a CCD camera to his 18-inch reflector he discovered 39 asteroids between 18th and 20th magnitude."
 As Dennis di Cicco anticipated, a new "golden age" of amateur asteroid discovery began. Today, however, large professional surveys are gobbling up asteroids at an astounding rate, and the sky has now been "swept clean" almost to magnitude 21.

skyandtelescope.org • JANUARY 2022 7

Paul Comba's 18-in. telescope that was used to discover 39 asteroids, due to the advancement of telescope technology called CCD, is mentioned in January's issue of *Sky & Telescope* magazine. This telescope was purchased by PSF Executive Board member, Herb Windolf, and donated to the PSF's Doug Firebaugh Observatory.

Jim sent a response to *Sky & Telescope* to update them on where Paul Comba's telescope was and the news of the PSF putting it to good use and guess what? His note was published in the June 2022 issue giving the PSF and the Comba-Windolf telescope some well-deserved attention. Way to go, Jim!

FROM OUR READERS | SKY & TELESCOPE | JUNE 2022

The Comba-Telescope

I'm a longtime subscriber to Sky & Telescope and pretty much read every issue cover to cover. I enjoy Roger Sinnott's 75, 50 & 25 Years Ago and always try to see if I can remember any of the showcased articles. While reading this in the January 2022 issue, the quote from the January 1997 issue, "CCD Charm" brought back many memories of my Cookbook CCD camera and the CCD revolution. What really caught my attention, though, was the part about Paul Comba, his 18-inch (46-cm) reflector, and the asteroids he discovered with it. That 18-in JMI NGT-18 is currently at home in the Planetary Studies Foundation's Doug Firebaugh Observatory in Freeport, Illinois. It's our largest telescope and provides beautiful images for visitors to the observatory. PSF Executive Board member, Herbert Windolf, who was a friend of Paul Comba, purchased the telescope in 2010 and donated it to the PSF. We've named it the "Comba-Windolf Telescope." Explaining the history of this telescope has been part of our introductory presentations on public observing nights since 2010. When I read this article, it brought a big smile to my face just thinking about how this telescope continues to provide learning and enjoyment.

Jim Dole

Co-director, Firebaugh Observatory, Freeport, IL

MEMBER SPOTLIGHT: BILL BOIKE

Bill Boike is our featured member for the Summer 2022 issue of PSF News. Bill grew up in Brookfield, IL and currently resides in Freeport, IL. Bill recently attended the Members Night at Harper College's observatory on Jun. 3 and got to mix and mingle with some of the longtime PSF members from the Chicagoland area and was a big help with the evening's stargazing activities.

PSF: Can you tell us about your background and where you went to school?

BB: I went to Colorado State University and studied animal science for 2 years, Lake Forest College and studied biochemistry and I received my BS. I then went on to receive my MBA from the Lake Forest School of Management. Post grad, I worked at Northern Illinois University's Fermi Lab.

PSF: Can you tell us about your career?

BB: I worked at Baxter Laboratories for 6 years, Alden Hebron High School for 10 years, and Rebars and Steel Co. for 31 years.

PSF: Do you have any special hobbies or interests?

BB: Obviously, I enjoy astronomy. I also enjoy model railroading, boating, and fishing.

PSF: Do you have a favorite place you have traveled?

BB: My favorite places I have traveled to include Albuquerque,

New Mexico, Seattle, Washington, and the country of Iceland.

PSF: Where are the darkest skies you've enjoyed stargazing?

BB: During college in Colorado, the skies were magnificent. With that kind of altitude, the thin air and very few clouds or light pollution, I could see the details of the Milky Way like I had never seen before.

PSF: How did you get involved with the Planetary Studies Foundation?

BB: I took the astronomy course taught by Jim Dole and Tom Dunmore at the Firebaugh Observatory in Freeport, IL.

PSF: Which is your favorite area of science and why?

BB: Physics — because the combination of math and physical science makes it the most relevant to astronomy and its application to the whole universe.

PSF: What advice would you give to our young readers and science enthusiasts?

BB: Strive to do your best and study your subject. ♦



Bill Boike and Tom Dunmore at the Firebaugh Observatory



Bill, Tom and Jim Dole at the Firebaugh Observatory

ANNUAL MEMBER'S MEETING: SEP. 17 @ 11A CDT



Similar to last year, this year's Annual Member's Meeting will be hosted virtually on September 17th at 11:00 a.m. CDT. If you are interested in participating in the meeting, please send Diane Sipiera an email at dsipiera@planets.org. We will then add you to a guest list and an email with instructions will be sent to you prior to the meeting. Please note: there will not be an opportunity to vote on the day of the meeting, so members who wish to cast their vote will have to do so through email or mail **by Thursday, September 1st**.

Meet the 2022 Candidates for the Board of Directors



MARY BECKER

Mary taught astronomy and physics at Harper College in Palatine, Illinois and Northeastern Illinois University in Chicago for many years. She and her husband, Alan, recently moved back to the Chicago area from Boston where she was a WorldWide Telescope Ambassador out of the Harvard-Smithsonian Center for Astrophysics. She runs Starryboards, LLC which produces full dome planetarium shows. In the past, Mary worked at and wrote planetarium shows for the Cernan Space Center in River Grove, IL and the Adler Planetarium in Chicago. She was involved with the founding of the Planetary Studies Foundation, the Karl G. Henize Observatory on Harper College campus and the original proposal for the Harper College planetarium. Mary has been a member of PSF from the beginning. She researched meteorites with Paul Sipiera and hosted a cable Television program with Paul featuring Apollo 17 astronaut Harrison Schmitt.



JIM DOLE

"My wife Pam and I live in and are natives of Freeport, Illinois. For the last twenty-one years I've worked as the IT support for a local manufacturing company. Astronomy has been a hobby for over 50 years and I now have a MS in both Computer Information Systems and Astronomy.

As the director of the Doug Firebaugh Observatory and teaching an online astronomy course for Appalachian State University, I'm very lucky to continue to share my passion for astronomy and promotion of science."



DOUG HICKS, PH.D.

"I am a geomorphologist resident in Auckland, New Zealand and was introduced to the Planetary Studies Foundation's activities during a visit to Illinois — for my friends Paul and Diane Sipiera's wedding in 1993! — and have been a member ever since. My early career working for the New Zealand government entailed analysis of aerial photographs and satellite images (1976 – 1982), moving on to hydrological and soil conservation surveys (1983 – 1993). As an independent consultant (1994 – 2018) I undertook soil surveys, land management and planning advice for government, commercial and private clients. Membership of PSF has spurred my ongoing amateur interest in astronomy and planetary geology. Now retired since the start of 2019, I welcome the chance to provide some time and support for our organization's activities."

YOUR VOTE MATTERS! Included with your copy of the newsletter is a ballot to cast your vote for this year's election of Directors. Please send in your vote electronically (preferred) to dsipiera@planets.org or via standard mail to:
Planetary Studies Foundation, 10 Winterwood Lane, Unit B, Galena, IL 61036.

PSF MEMBER AND ASTRONAUT BILL ANDERS'S HERITAGE FLIGHT MUSEUM OPENS EARTHRISE EXHIBIT

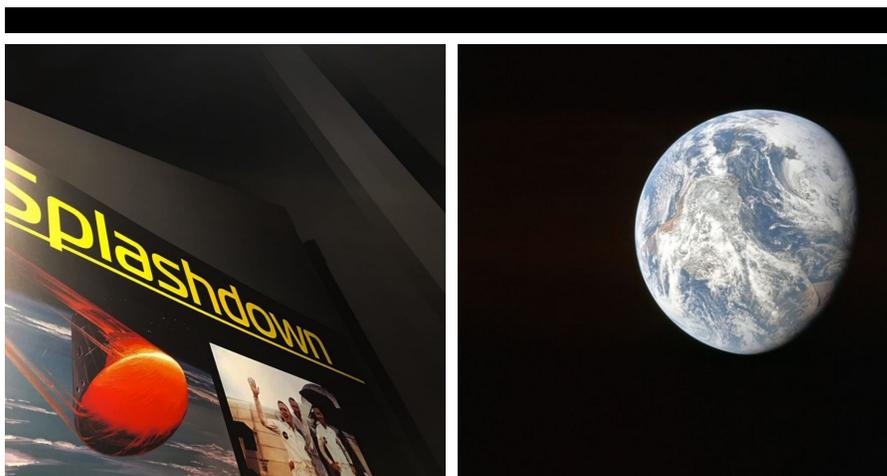
Heritage Flight Museum (HFM) was founded in 1996 by William and Valerie Anders. Located at the Skagit Regional Airport in Burlington, Washington since 2014. Heritage Flight Museum is a nonprofit 501(C)(3) organization dedicated to the preservation and flying of historic aircraft.

In spring of 2022, HFM opened the Earthrise Gallery, an exhibit that walks visitors through mankind's first trip to the Moon. The successful Apollo 8 mission set many firsts in the history of human spaceflight. Frank Borman, James Lovell and William Anders became the first humans to leave Earth's gravity and enter the gravity of another celestial body. They were the first humans to see the far side of the moon with their own eyes. The famous "Earthrise" photograph taken by William Anders later became known as one of Life Magazine's "100 most influential photographs." Six display units tell the Apollo 8 story from its inception to its lasting legacy. Video displays recreate the awesome launch of the Saturn V rocket, the crew's life aboard the Command Module and the famous first Christmas Eve broadcast from the Moon. Artifacts on display include a piece of the Moon encased in NASA's Ambassador of Exploration Award and presented to HFM founder William Anders.

The Ambassador of Exploration is a NASA program dedicated to honoring the astronauts of the Mercury, Gemini, and Apollo programs. Through the presentation of an Ambassador of Exploration Award containing a Lunar Sample, the program recognizes the sacrifices and dedication of each of these early astronauts who so immensely contributed to the exploration of space.

While small in measurement, this moon rock represents an immense piece of historical importance, having been brought back to Earth by the Apollo program. The moon rock will be displayed at Heritage Flight Museum.

Various displays such as: Aircraft and Vehicles, Aircraft Engineering and The Mechanic's Corner, Cornelia Fort and "The Pearl", Earthrise Gallery, Founder's Room, Military Artifacts, Skyraiders and "Sandy" pilots in Vietnam, The '68 Experience, Training to Fly, WAFS, WFTD, WASP, and Military Uniforms. For more information about Heritage Flight Museum visit www.heritageflight.org.



Pictures from the new Earthrise Gallery. Courtesy of Instagram @heritageflightmuseum



One of the most famous photos taken in history, "Earthrise," photographed by Bill Anders

MEMBERSHIP FORM

Regular Membership ___ \$ 20.00 1 year **or** ___ \$ 35.00 for 2 years
 Family Membership ___ \$ 35.00 1 year **or** ___ \$ 60.00 for 2 years
 Sponsoring Membership ___ \$ 50.00 1 year **or** ___ \$ 90.00 for 2 years
 Contributing Membership ___ \$ 100.00 1 year **or** ___ \$180.00 for 2 years
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Our mission is to promote the study of planetary science and astronomy with emphasis on meteorites; and to sponsor, encourage, and assist in the physical, astronomical, environmental, and cultural sciences so as to broaden man's knowledge of all phases of the universe.

For more information about our mission and upcoming events, visit:

www.planets.org



In addition to donations and dues, you can help contribute to the PSF by participating in Amazon's charitable program.

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- **START SHOPPING:** Be sure to start each purchase at smile.amazon.com and the PSF will receive .05% from all eligible purchases. You can bookmark the webpage to make sure you don't forget this important step.
- **SPREAD THE WORD:** Encourage your family and friends to choose the PSF, too. Amazon earned over \$386 billion in net sales in 2019 alone — help us receive a tiny piece of that pie! — it's free to you and helps us earn valuable funds.